

REMARKS/ARGUMENTS

Claims 1-20 are active in this application.

Claims 8-13 have been withdrawn in view of the Restriction imposed by the Office. However, these withdrawn claims have been retained in this case so that Applicants can request that these claims be rejoined with the elected product claims in accordance with the guidelines set forth in MPEP 821.04.

Support for the amendment to claim 1 is found on pages 15-16, Table 2 and page 18, Table 3

Support for the amendment to claim 6 is found on page 9, lines 16-22.

The remaining amendments are for clarity.

Claims 14-20 are believed to fall within the elected subject matter as they are directed to soybean seeds containing similar modifications to the expression (or lack thereof) of the  $\beta$ -conglycinin and glycinin as set forth in the elected claims 1-7.

No new matter is believed to have been added by these amendments.

As claimed herein, the invention is directed to soybean (and their seeds) that fail to express certain subunits of  $\beta$ -conglycinin and glycinin, the result of which is a soybean line (and their seeds) that have a total free amino acid content greater than that found in seeds of conventional soybean varieties or lines. This is particularly advantageous in terms of the use of the soybean (and their seeds) in preparing functional foods high in free amino acids, the advantages of which are discussed, e.g., on pages 1-2 of the specification.

The rejections under 35 USC 112, first paragraph (written description and enablement) are no longer applicable in light of the amended claims submitted.

The structure of the soybean glycinin genes, all five subunits, are known (see the paragraph bridging pages 1-2). (see *Capon v. Eshhar* (Fed. Cir. 2005): “When the prior art includes the nucleotide information, precedent does not set a *per se* rule that the information must be determined afresh.”)

The structure of the *Scg* gene (termed on page 3, 3<sup>rd</sup> paragraph) corresponding to the  $\beta$ -conglycinin activity is knowable from the deposited microorganism *Glycine soja* GT2. (see page 3, 3<sup>rd</sup> paragraph; see also *Enzo Biochem, Inc. v. Gen-Probe, Inc.*, 323 F.3d 956, 969, 63 USPQ2d 1609, 1616-17 (Fed. Cir. 2002).

The soybean lines (and their seeds) as defined in the claims are also described in the specification on page 15-16, Table 2 (note the various mutants of set forth at the top of each table—which lack all of the subunits of  $\beta$ -conglycinin subunits  $\alpha$ ,  $\alpha'$ , and  $\beta$ ; and at least one the following groups of glycinin subunits: (i)  $A1_{1a}B_2$ ,  $A_2B_{1a}$ ,  $A_{1b}B_{1b}$ ; (ii)  $A_5A_4B_3$ ; and (iii)  $A_3B_4$ —lines 10-16). Each of these lines have a higher total of free amino acids than normal soybean lines (# 1), lacking all subunits of  $\beta$ -conglycinin (#9) and other varieties as shown in Table 3.

Accordingly, the claims are adequately described and enabled within the meaning of 35 USC 112, first paragraph and as such withdrawal of the rejection is requested.

The rejections under 35 USC 102(b) in view of Hajika and Ogawa are respectfully traversed as these publications do not describe soybean lines lacking  $\beta$ -conglycinin subunits  $\alpha$ ,  $\alpha'$ , and  $\beta$ ; and which does not express at least one group of glycinin subunits selected from (i)  $A1_{1a}B_2$ ,  $A_2B_{1a}$ ,  $A_{1b}B_{1b}$ ; (ii)  $A_5A_4B_3$ ; and (iii)  $A_3B_4$ .

Rather, Hajika describes soybean line QT2 which lacks all of the subunits of  $\beta$ -conglycinin. Nothing in Hajika describes or suggest soybean line which does not express at least one group of glycinin subunits selected from (i)  $A1_{1a}B_2$ ,  $A_2B_{1a}$ ,  $A_{1b}B_{1b}$ ; (ii)  $A_5A_4B_3$ ;

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and (iii) A<sub>3</sub>B<sub>4</sub>. In fact, on page 386, 1<sup>st</sup> col, lines 10-12, Hajika states that "it is possible to breed soybean lines with high 11S protein (glycinin) content and lacking all the lipooxygenase isozymes."

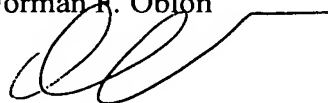
In addition, Ogawa (acknowledged on page 1, 3<sup>rd</sup> paragraph of the present application) describes soybean lines which lack or have reduced expression of  $\alpha$ ,  $\alpha'$  and  $\beta$ -subunits of 7S globulin (-conglycinin). The soybean lines maintained total protein content (page 142, Table 2) and have a high sulfur-containing amino acid content (see page 145, Table 3). Ogawa does not describe or suggest soybean line which does not express at least one group of glycinin subunits selected from (i) A<sub>1</sub><sub>1a</sub>B<sub>2</sub>, A<sub>2</sub>B<sub>1a</sub>, A<sub>1b</sub>B<sub>1b</sub>; (ii) A<sub>5</sub>A<sub>4</sub>B<sub>3</sub>; and (iii) A<sub>3</sub>B<sub>4</sub>.

In view of the above, Applicants request that the rejections under 35 USC 102(b) be withdrawn.

A Notice of Allowance indicating that Claims 1-20 are allowed is also requested.

Respectfully submitted,

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